Gintautas ŽALĖNAS Vytautas Magnus University, Lithuania g.zalenas@gmail.com

CUM SIGNO CAMPANAE. THE ORIGIN OF THE BELLS IN EUROPE AND THEIR EARLY SPREAD

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Bell is one of the European culture-specific artefacts, firmly rooted in the collective conscious as a symbolic figure of multiple meanings. This instrument which, emerged and matured in the depths of Western Church, despite the started secularization process in the Middle Ages, still remains to be a sacral instrument, used in almost all denominations of Christian Churches. The paper aims to find out what a European bell is and to provide new insights into the early dispersion history of the instrument's emergence, its origin and evolution. The emergence, origin and evolution of bells are described in the abundance of literature, written in various languages of the world. Only the bibliographic review would need a publication of a great length. Therefore, we will not provide a comprehensive historiographical review as we will only mention and present, in our opinion, the most significant authors and their claims on the origin of bells.

Benedictine monk, poet and theologian Walahfrid Strabo, having lived in the first half of the 8th century, was one of the first who wrote about the origin of bells. He points out, that they were Italians, who started using bells and according to the places of their manufacturing, Latin bell names came – *campana* (from the province of Campania in southern Italy) and *Nola* (from Nola city) ¹. Liturgist Guillaume Durand, who lived in the 8th century, designated the entire section² for bells in his work *Rationale Divinorum Officiorum*. There the author also notices that the first bells were made in southern

Italy and added that it was done by St. Paulinus, the Bishop of the already mentioned Nola city. This version of bell origin is repeated many times in various works and nowadays it is mentioned in the majority of publications for European bell history.

New Ages, which began together with the Renaissance, brought in not only the abundance of publications about bells, but also a kind of "confusion" if the already mentioned authors of the 11-13th centuries, G. Durand³ and Jean Beleth⁴, strictly distinguished between various instruments of bell family according to their function and form, the majority of those, who wrote later, could not see a significant difference between small bells and the large ones, hanging in the towers of churches. One of those authors was an Italian humanist Polydor Vergil. In 1521, in the second edition of his book De Inventoribus Rerum⁵, he presented a new version of bells' origin, claiming, that ancient Hebrews were the first to use bells as the High Priest of the Jews had to wear the garment, the edges of which were trimmed with little tinkling bells⁶. The latter theory of bells' origin reaped many repetitions and also it is not completely forgotten in our days7. Giralamo Maggi, who lived in the 16th century and wrote the first book about bells De Tintinnabulis, also thought, that large bells came from the small ones, which in antiquity were known as tintinnabula and it is reflected in the book title8. Such identification of small and large bells, considering them to be the same instrument, is a characteristic feature of the incremental evolution

theory of bells. According to this theory, small bells, known from the ancient times, due the emergence of new needs, were improved and extended until they acquired nowadays' forms. The latter approach is well expressed by one of the articles on bells in British encyclopaedia, in which it is written: that bells being used, among other purposes, by the Romans to signify the times of bathing, were naturally applied by the Christians of Italy to denote the hours of devotion, and summon the people to church⁹. Sometimes the author of such an "expansion" is indicated: "In 420 St. Paulinus from Nola expanded the small bells and hung them in towers" 10.

Pope Sabinian, who lived at the beginning of the 7th century, is also attributed to "inventors" of bell. As it was stated by Angelo Roccha, the author of the book about bells, published in 1612, the latter opinion was propagated by the 14th century poet and humanist Francesco Petrarch ¹¹. The same claim may be also found in the book "On the lives of popes" ¹² published in 1557 by Onuphrio Panvinio and in numerous other publications of the 16th and 17th centuries. It should be noted that the Pope Sabinian is attributed not to the invention of the instrument, but only to its use – *campanarum usum invenit* (invented the use of bells). ¹³

Authors who "moved" the emergence of bells into more distant lands and older times, maybe distinguished into a separate group. Athanasius Kircher, the Jesuit monk of the 17th century and the cryptographer of Egyptian hieroglyphs, derived bells from ancient Egypt. He claimed that during Osiris festivals, half-round copper vessels14 together with sistrums and rattles were used as background music. The 19th century Russian researcher M.Pyliajev also derived bells from Egypt¹⁵. James Blades¹⁶, modern author of the book about the history of percussion instruments and campanologist John Burnett¹⁷ start the history of bells from the ancient Mesopotamia. Wendell Westcott, the author of a popular book about bells, admitted that he does not know in which part of Asia – eastern or western – bells emerged¹⁸. Today it is difficult to say who was the first author, related the emergence of bells with China. The latter opinion was supported at the end of the 19th century by A.J. Nowowiejski, the author of a monumental

work for the Catholic Church liturgy¹⁹. Nowadays, this theory also has many adherents, starting with the recent edition of Encyclopædia Britannica²⁰. Meanwhile, in the one of the older edition the beginning of bells is referred to the central France of the 6th century²¹.

It is obvious from this brief summary that the majority of authors who have written about the bells, were talking about quite different things: in some cases about the emergence of bell as a certain type of instrument, in other cases about its improved form – European bell which, at an early stage of its development was purely ecclesiastical signal instrument. The High Jewish Priest's garment bells and modern bells are only similar by the method of sound extraction. The 18th century author of German language encyclopaedia, J.G. Krünitz, is one of the few authors of New Ages, who made a distinction between these two types of instruments, he wrote: "Italy is undoubtedly the homeland of bell, while the East – of jingles and hand bells" ²².

DEFINITION OF BELL, BELLS AND THEIR COGNATE INSTRUMENTS

Various encyclopaedic articles and other publications present rather different definitions of bell²³. Usually it is described as a hollow percussion vessel²⁴ which in music is ascribed to the group of idiophone instruments. The sound is extracted mechanically triggering vibration: when stroking with a certain object (usually with a clapper or hammer or simply by shaking it. However, such a description fits many sound emitting instruments, from primitive rattles (for instance, a bladder with some pebbles or dried peas inside) to a variety of metal, wood or other sound emitting devices. In order to refine and define the object, it is necessary to group them according to the specific features, primarily rejecting the bladders and similar rattles that have little in common with bells.

Harvard dictionary of music defines three types of bells: 1. an open, cup-shaped, 2. closed, spherical and 3. tubular²⁵. However, this distinction is not accurate, since the first group includes the acoustic bowls and pots, popular in the Far East [Fig. 7]. It

is obvious that instruments, corresponding to a traditional bell concept, fall into another, even smaller subgroup, the characteristic feature of which is a downward-facing mouth of the instrument. In this paper we try to define a bell as a hollow, vase or cupshaped metal instrument²⁶ on the top of which where is an item for hanging (hanger): a loop, an ear, canons and so on. According to the standard, adopted in the Lithuanian Cultural Heritage Centre, not large bells, the body height of which (the tangent from the bottom edge to the shoulders) is less than 20cm, are called *small bells*²⁷. At the top of their body there is a small ear or a handle. Other instruments of similar composition (generally call them instruments of the bells' group) have a variety of forms: tubular, quadrilateral rectangular, trapezoidal or other forms, usually they are bells for animals, commonly referred to as animal bells [Fig. 1], but more often this term in English is used under specific animal

species: *cowbell*, *sheepbell*, *goatbell*, etc. Round, oval, flattened spherical or small teardrop metal rattles (rarely of more than 7 cm height) within pellets (small, usually metal balls, which cause the sound when striking the walls) are called *crotal bells*²⁸ [Fig. 2]. Small bells and crotal bells in English are often called *jingle bells*²⁹ without consideration to the form.

Similarly various bells are classified in other languages too. For instance, in the Lithuanian language, bell is called *varpas*, small bell *varpelis*, animal bell *kankalas*, *klankalas*, *klankis*, crotal bell *dzingulis*, *dzinguliukas*. The Germans, next to the words Glocke and Glöckchen (bell and small bell), call the animal bell with the words *Kuhglocke*, *Kuhschelle* or a more general term *Tierglocke* and crotal bell is called *Schelle*. In Russian, besides the words *колокол* (bell) and *колокольчик* (small bell), the words *ботало* (animal bell) and *бубенец* (crotal bell) are



Fig. 1. Cow bell. Lithuania, 19th century. Chased iron, welding, bronzing. Open-Air Museum of Lithuania. Photo: Ina Dringelytė.



Fig. 2. Crotal bells (horse neck-band), Lithuania, early 20th century. Brass: casting. Open-Air Museum of Lithuania. Photo: Ina Dringelytė.



Fig. 3. Table bell. Lithuania or Poland (?), mid-to-late 19th century. Bronze: casting, chasing, H – 10,8 cm, D – 6,2 cm. Lithuania, catholic church in Prienai. Photo: Aloyzas Petrašiūnas.

used. Thus, the separation of various bells is specific to not only the Lithuanian language and Lithuanian culture. It should be noted that in the Lithuanian language, as well as in other languages, all the previously mentioned bells' group, *instruments* are often called by one widespread word – a bell.

Bells and small bells, while being basically similar in structure, form a common but miscellaneous family of instruments. Several groups can be distinguished among the small bells: miniature bells (of less than 5cm height), the so-called sled bells or carriage bells (the name is conditional, applied for bells with an ear on the top of the body; table bells (usually with the handles on the top of the body; they are characterized by thin body walls and melodic, not very strong sound) [Fig. 3], hand bells (instruments, similar to the table bells but they are larger and with thicker walls; their sound is stronger, less melodic, usually used as signal instruments for organising lives of people groups), less common strain of the latter bells is big hand bells (distinguished as having hypertrophied forms). The word bell embraces a rather homogenous group of instruments which differ in size, silhouettes and functions, a feature, common to them all is that they are only used in a stationary position - fixed to a hanger, console, frame. These bells are separated into two groups - the so-called European style bells and Far East bells. The characteristic feature of today's European type bells is compact proportions concaved wall of complex profile, the sound is caused by striking with a metal object

(the clapper or the hammer) to the bottom edge of the expanded thickness. Among the old-European bells, there is one special group – the so-called *clock bells* or *cymbal bells*; at the beginning of New Ages, the latter instrument, which emerged from the metal plates (cymbals), was turned into the strain of bells, however, since the second half of the 19th century, the production of this type of instruments (in a shape of large bowl turned upside down) does not have bell-specific features again. Bell can be also classified according to their use (e.g. ship bell, carillon bells and so on) however it does not influence their structure and form.

BELL GENESIS

The emergence of bells in the Far East

Bell's genesis is a long and complicated process which has not been thoroughly researched yet. In literature, various rattles are often considered to be the direct ancestors of bells. The oldest of them were of natural origin – shrivelled fruit with seeds. Later the artificial ones appeared – the dried bladder with seeds or small pebbles and other similar to this one. Ceramic rattles are considered to be a more complicated prototype. They could have descended from the Stone



Fig. 4. Rattle. China, neolithic age. Terracotta. Shaanxi Provincial Museum

Source: http://picasaweb.google.com/116512474184071531500/ ShaanxiProvincialMuseumWesternZhouGallery?gsessioni d=pE2RUs-Q1TiDnC9okYxLCA#5405943504112104882. Age, after the improvement of ceramic vessels' production. The oldest remaining objects of this type were found in north-central China, in the province of Shaanxi (Shănxī Shěng) and belong to the Neolithic period [Fig. 4]. They were produced approximately 5000 years ago³⁰. What concerns their form, rattles are similar to a walnut shell; their inside is hollow, *containing pellets*. In the popular literature, some authors consider them to be the oldest bells. It may be thought that they are the predecessor of the *crotal bell* which has little in common with bells not only due to its form but also the origin.

The emergence of small bells might have been influenced by the rubbish of nature consumed products egg shells of large birds, nut shells as well as parts of bamboo stems. From ancient times this material was used to produce various bell reminding rattles. First of all, small ceramic bells, later - the ones that were cast from metal, could emerge at different time and in different places. It is reasonably considered that the earliest bells were made in China³¹. The two oldest ceramic bells were found in Dahecun area, Zhengzou, Henan Province and they are dated back to the early third millennium BC³². There are quite many small pottery bells dating to the third millennium BC. We can judge their appearance from a small bell which belonged to the Yangshao culture and was found in the Miaodigou area in 1950. It was made of terracotta with a handle on the top of the body and with holes to hang the pierced rattle. The height of the item was 9,2 cm with the circular diameter of 5 cm³³. In the Chinese cultural areal the bells of such type are called ling³⁴ and until now they are used as table bell or the bells for other uses. It was already the first millennium BC when the small bells, animal bells and other similar bells spread in a vast area which covered almost the entire Asia, southern Europe and north Africa; they were applied in the domestic life, agriculture, religious rites, were used as votive offering money and even as decoration of monuments as it is seen on the denarius of the Roman Republic [Fig.5].

The archaeological, historical and iconographic material does not let directly derive bells from the small bells on the assumption that in the course of time bells were made larger and larger. The



Fig. 5. Denarius. Rome. Moneyer: C Minucius Augurinus. 135BC. Silver. British Museum.

Source: http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=3056398&part Id=1&searchText=Minucius+&page=1.

emergence of this instrument may be related, first of all, with early noticed acoustic properties of ceramic vessels, used in everyday life. In China ceramic drums are still being used. One strain of this instrument, which was already cast of bronze and used in the first millennium BC - Chun-yu (sacrifice bowl) has a vase shape, which clearly indicates the domestic origin of the instrument [Fig. 6]. In the Neolithic period or even earlier, a group of vessels of various sizes, emitting different sounds, could have been used as tonic percussion instruments. Such provisional musical instruments, composed from different everyday vessels are still used in various children games or even in serious jazz concerts. Recently, Chinese researchers have found indisputable evidence that ceramic bronze wine containers (fou) were also used as musical instruments35. Thus, there is little doubt that before the beginning of the Bronze Age, first vessel shape ceramic instruments to emit the sounds while playing music or performing rituals, appeared in China. The pots, already made of metal, are still used as ritual instruments

in some of the Far East Buddhist temples [Fig. 7]. The emergence of bell might have been influenced by the attempts to hang a ceramic vessel and to extract a richer sound from it 36. At that time, the difference between bells and small bells was exposed. If the latter ones were rung by moving the pellet or bell tongue inside, in the second case it was rung by striking the outside wall. Until these days, those two techniques are the only ones used to toll bells. Besides, it can be stated, that bell genesis did not take place in a straight line. It is stated in literature that the first bronze bells were made at the end of the third millennium BC, in China, being among the earliest metal artifacts ³⁷. At first, small bells of various purposes were cast- from the ones, that were tied up under dogs' necks to those which were used in a lord's court. First instruments, that could have been called bells sensu stricto, appeared at about 1200 BC38. They were called Bo-Zhong. The Smithsonian's Museums of Asian Art in Washington preserves one of the earliest bells of this type, made in the 12-11th century BC [Fig. 8]. This bell is

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Fig. 6. Chun-yu drum. China, Han dynasty: 3rd century BC - 3rd century AD. Bronze. H - 53.4 cm. Japan, Nara National Museum.

Source: http://www.narahaku.go.jp/english/collection/p-1317-312.html

of truncated cone shape with a hanging ear above the flat top with a small hole at the middle of it, the purpose of which is not clear. The height of the bell is 31cm and the mouth is 24.8 x15.2cm³⁹. The silhouette of its body reminds of the pottery vessel form, prevalent in the Neolithic [Fig. 9]. However, according to the dimensions, the cross-section is not circular as in the case of the previously mentioned vessels, but oval. This type was initially determined by imperfection in production technology and later by the rooted tradition. Almost at the same time, another instrument nao appeared. It is a flat, hollow device with convex mouth facing upwards which has to be put on the haft. Although it might have resulted from the bells with handles and the majority of researchers call this type of instrument a bell, we assume that it is rather a variant of gong but not of bell sensu stricto. Other further various bell shapes that appeared in China and the Far East have no significance to our work. It is only necessary to mention Indian bells. The emergence of bells in this subcontinent has not been researched yet. It is only known that from the ancient times Hindus as well

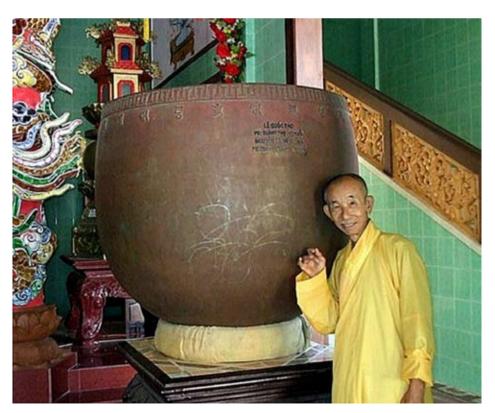


Fig. 7. Bowl –gong. Vietnam, 20th century (?). Bronze: casting.

Source: http://phatgiaovnn.com/upload1/modules.php?name=News&op=viewst&sid=6035.



Fig. 8. Bo zhong bell. China, early bronze age, Shang dinasty: ca. 12th-11th century BC,. Bronze: casting. H-31 cm, D-15.2 cm. Washington, Freer Gallery of Art and Arthur M. Sackler Gallery Collection.

Source: http://collections.si.edu/search/results.htm?q=record_ID%3Afsg_S1987.10&repo=DPLA.

as Buddhists in India have been using small bells of circular cross-section with a silhouette of a lotus flower. In Sanskrit these bells are called ghanta (probably this word is related to the Lithuanian word gandas (rumour)). This instrument corresponded to meditational nature of Buddhism and quickly spread among the professors of the latter religion. In China, under the Chin (221-206 BC)⁴⁰ or further Han dynasty (206 BC - 220 AD)41, under the influence of the quickest Buddhism spreading, circular cross-section bells were started to be produced instead of two-sided bells. The sound of these bells was deeper and longer⁴², however it was possible to obtain only one note. Probably in the beginning of a new era, Chinese temple bells have taken a classic round shape resembling the cylinder rounded off at the top and with sometimes slightly convex walls. At the top of the bell there was a cast hanging ear which

was usually in the form of dragon. As well as in earlier times, in order to toll these bells it was necessary to strike the bell's wall. Chinese bells of this type along with Buddhism spread to Japan, Korea, Indochina except India and Burma. Huge bells tell much about the casting craft of those times. These bells could weigh more than 40 tones and they are used for almost one thousand three hundred years, for instance the bell in Japan, the Tōdai temple of Nara city, cast in 752 and weighing 44 tones.

THE EMERGENCE OF BELLS IN EUROPE

Antique small bells and aes

If in the Far East bells have been already used in the beginning of our era, in the west of Eurasia this type of instruments was not known yet. However, this cannot be said about small bells of various sizes and shapes. They were widely spread and often used in different ways. In Greco-Roman cultural area, the articles of this kind along with other metal idiophone instruments have been used since the second half of the first millennium BC. As it has been mentioned before, the size and shape of small bells were not the same. According to their size, they can be divided into three groups. Most of the remained small bells are the so-called miniature bells (their size is less than 4 or 5cm), the second group consists of medium size bells and the third group - larger "hand bells" with a handle for holding. The majority of the mentioned bells were called in Latin by one general word tintinnabulum. Bell grouping according to their size is provisory however, it is very important as it defines the limits of the bells' usage. It is obvious having remembered that miniature



Fig. 9. Urn (gang) China, Henan, Yangshao Culture: 3500 BC-3000 BC. Terracotta. H – 47 cm, D-32.7 cm. Beijing, National Museum.

Source: Bavarian, Behzad; Reiner, Lisa. Ceramic's Influence on Chinese Bronze Development. Northridge: California State University, 2007. bells could be sewn to clothes or worn as amulets around the neck when larger bells were not suitable for that. Usually bells were cast from metal, particularly from copper alloys, rarely from silver or gold, though sometimes they were made of ceramic or other short-lived material. Small bells had various forms: hemispheric, rounded cylinder, cone, pyramid or other. Their usage was also extremely varied. Some purposes can be highlighted such as household⁴³, apotropaic⁴⁴, ritual⁴⁵ and signal⁴⁶, intended for a wider range of people and other existing purposes (decorative, exchange of goods⁴⁷, etc.).

For our paper, larger bells of signal or ritual purpose are important. Various writings of ancient authors make an impression that these bells could have been called by a Latin word aes⁴⁸. Antique poet Martial who lived in the first century AD, in one of his works mentions aes thermarum⁴⁹ (literally bath copper) which was a sign of public bath opening (thermal baths). This epigram was named Tintinnabulum, which suggests that aes thermarum was one of the tintinnabulum strains - a hollow bellshaped instrument rather than a metal plate, which was commonly used at that time, had various forms and was called by different names. In this respect, a valuable testimony is found in St. Paul's letter to the Corinthians, which was translated into Latin by St. Jerome: linguis hominum loquar et angelorum caritatem autem non habeam factus sum velut aes sonans aut cymbalum tinniens (1 Corinth 13:1) (If I speak with the tongues of men and of angels, but do not have love, I have become sounding brass⁵⁰, or a clanging cymbal. 1 Corinth 13:1). In the letter there is a comparison of similar instruments - aes and cymbols (copper plates) and emphasizing of their different sounds⁵¹. V. Martial's contemporary, the poet J.Juvenal, mentions aes together with other metal instruments (Satura VI, 441,442) - tot pariter pelves ac tintinnabula dicas pulsari, iam nemo tubas, nemo aera fatige52 (as if at the same time a lot of bowls and jingles would have been striking, [but] nobody tortures neither trumpets nor copper anymore). As it is seen, instruments are divided into two groups the first had to describe a negative character, that is why the instruments of lower status according to the society of those times - bowls (pelves) and jingles

(tintinnabula) were chosen whereas in the second case they were "noble" – trumpets and *copper*.

Aes was also exclusive due to the attributed mystical powers. Several authors of that epoch pointed out that this superstition was widespread in late antiquity. It was believed that *aes* sounds could break the spells and scare away evil forces. Albius Tibulius in one of his elegies (Elegiae, Liber I, 8, 21) wrote how an old witche's spells were aera repulse sonent⁵³ (were broken by talling copper). One of the most famous ancient Roman poets Ovid (Publius Ovidius Naso) in his unfinished poem Fast (Fasti, Liber V, 429-444) describe exorcism rites at the end of which Temesaeaque concrepat aera (and broke with Temesa copper)54. Temesa (now it is Nocera Terinese) is an ancient town in the south of Italy, Calabria province, which is known for its copper mines. Hence, aes Tamesae also meant an instrument made of Temesa copper. The above mentioned V. Martial alluded to the custom of striking aes at certain lunar ceremonies Numerare pigri damna quis potest somni, dicet quot aera verberent manus urbis, cum secta Colcho Luna vapulat rhombo⁵⁵ (I am lazy to count as I can [already] dream, will [somebody] tell how many [times?] copper is struck by city hands when a splitted Colchis moon is struck by rhombus [certain magical instrument]). This, an important poem fragment to us, is variously translated and interpreted. Without entering into a discussion it can be noticed that when talking about spells, a plural aes form aera was used, which does not necessarily mean that during the ritual ceremony there was more than one copper instrument. According to Martial's text, the strokes were counted. The essence of this superstition is not known but it is clear from the description that the sound could not be the sound of many instruments as they were individual strokes that could have been counted. Thus, city hands, striking "the copper", mentioned in the poem, was probably not the ordinary citizens but some kind of institutions that were able to dispose aes instruments that had a public purpose.

In summary, it can be stated that there is a high possibility that *aes* were called *hand bells* the sound of which could spread quite a long distance. It was one of bronze idiophone instruments along with

cymbals, bowls (pelvis), sistra, etc. There is no evidence that *aes* can be a direct prototype of a modern bell. Until the middle of the second half of the first millennium, during the archaeological research no objects that could be related to modern bells were found. They cannot be testified by the remaining ancient iconographic material – frescoes, mosaics, codices miniatures either. However, some tintinnabula images can be found and a number of these bells are remained and stored in various museums of the world.

While excavating Herculaneum city, buried under the ashes of Vesuvius in 79 AD, a small bell of 17.2cm tall⁵⁶ was found and it is considered to be the first known big hand bell. It was cast of copper alloy and it is of rectangular cross-section with the up-right walls, the upper part is convex and rounded with an arc-shaped handle [Fig. 10]. The rectangular bell shape indicates that its prototype could have been small bells hammered out of sheet metal rather than from copper alloy made tintinnabula, that were popular at that time. The Herculaneum



Fig. 10. Bell from Herculaneum, 1st century AD. Source: Пухначев, Ю.В. Колокол. In: Наше наследие, 1991. №5.

bell size, shape, more powerful sound could be the features, indicating it was *aes* instrument.

Idiophone instrument in the early Christianity

In the fourth century, when Christianity became the official religion of the Roman Empire and spread rapidly, church rituals and traditions were only being formed and they were different everywhere. Local variants were formed within individual communities and dioceses into which a number of local ceremonies, etiquette and even the elements of pagan rituals were included. The formation of local rituals had to hasten after the collapse of unanimous politic, economic and cultural space of the Roman Empire. In the 6-7th century AD, some different ritual systems, having its liturgical forms[®] (called rites), were formed. Nowadays we are more aware of Rome and Byzantine Rites. However, from the earliest times until the present, in the Catholic Church there are local Mozarabic and Ambrosian Rites⁵⁷. From the extinct ones, Gallican and Celtic⁵⁸ Rites are more important to us. It is necessary to talk about all these differences as the usage of bells and small bells was and often is different in these ritual systems. In Byzantine Orthodox liturgy bells were not and are still not used⁵⁹, however they perform an important function in Roman rituals⁶⁰. Western Christians had to start using small metal bells, inherited from Antiquity, quite early. First of all, a custom of tolling bells during the funeral procession⁶¹, known in the ancient Greece, was taken over. In the first centuries AD it could have been practised by the Christians in Rome city, the majority of whom were the speaking in Greek. As it is known, in the late antiquity a part of the Rome city cemetery was built in the catacombs where Christians gathered to pray during the years of persecution. Thus, the sound of funeral ceremony bell could be the sign of not only the funeral but also of the prayer taking place at that time. In other cases, special envoys cursors⁶² reported about the coming meetings and their places. Cardinal Cesare Baronio, a church historian having lived in the 16th century, stated that after Christians' persecutions, cursors used to run around the streets tolling the small bells, giving a sign to people, that it was time to gather for prayer⁶³.

The first indirect testimony of the bell shaped instruments' usage in the liturgy is only found at the end of the 6th century St. Gregory of Tours' work *De Virtutibus Sancti Martini* (Book 1, 28⁶⁴). There he describes the bell-rope, hanging in Tours Cathedral, near the altar (and grave) of Saint Martin: *funem* ... *de quo signum commovetur* (the rope...with which the bell is moved). It is obvious, that the bell, hanging in such a place, must have been used during the liturgy and performs a similar function as present bells of sacristy and altar.

Small bells, among other instruments, have been used to mark the beginning of canonical hours. The division of day into a certain hour cycle, every part of which (canonical hour) is started with certain prayers, is called the Liturgy of Hours. Its outset is associated with the ancient Jewish custom to pray several times a day during limited hours and with a working time regulation in the marketplaces (=forums) of the ancient Roman cities. A given sound mark (historian Strabo states that it was the sound of bells⁶⁵) indicated the beginning, the end and separate parts of three hours of Forum's working day66. The Liturgy of Hours, supplemented by night prayer hours, has a similar structure. This system began to form in the environment-of the first Cenobites' monasteries in the 4th century, In Egypt and the Middle East. In the latter region, since ancient times the sound of trumpets⁶⁷ invited believers to the temples. In the Old Testament there was an indication to use the trumpet as a signal instrument (Lev. 23.24; Exod. 19.13). Hence, following the tradition, local Christians also began taking trumpets⁶⁸. Their use was particularly prevalent in the Eastern Churches⁶⁹, but it is also possible that they were used somewhere in the West⁷⁰. In the Eastern monasteries there was another popular custom – to invite monks for prayer by striking wooden boards⁷¹. The latter can be either hung (as Lithuanian folk instrument tabalai) or carried on the shoulders. This type of invitation for prayer is the most common, particularly in the space of Byzantium culture. In Western Churches wooden instruments were also known. It is suggested by not only wooden clatter (in Lithuanian - kleketas) or rattle⁷² that are used in a Catholic Church during the Holy Week, but also by historical testimonies,

i.e. in 1198, in St. Edmunsbury Abbey of England, knocking board (in Latin – tabula percussa)⁷³ was used as a signal instrument.

In conclusion it can be stated that when Christianity became the official religion, the instruments of bell family have not been universal for a long time. Together with them or instead of them other signal instruments were used. It is not known which instruments of the bell family were most widespread and what their earlier forms were. However it is obvious that miniature tintinnabula forms that were popular in antiquity were not applied in the rituals except the Syriac Rite in which religious items, decorated with miniature bells, were used⁷⁴. Various types of small bells, having developed from the larger tintinnambula, were widely used in the Middle Ages, in Western Churches, especially in their monasteries. They are still being used.

Celtic hand bells

The oldest bell resembling instruments have been used in the Christian rituals and they survived till nowadays, maybe reaching even-the fifth century. They are usually associated with St. Patrick, who worked as a missionary in Ireland at that time. It was probably the fifth or the next century when in this region a specific bell type and a specific way of their use occurred which became a part of Celtic Rite⁷⁵). Bells were used not only for summoning the believers together for the divine offices⁷⁶, they were also a sign of spiritual and church authority: an attribute, which was typical to the head of the bishop's⁷⁷ monastery (including abbess), as well as to the pilgrim or missionary, or possibly to all priests. As often as not they-were assigned to miraculous powers⁷⁸ and some of them even became the adored relics, which were kept in decorative shrines, which were protected by specially assigned hereditary keepers transmitting them from generation to generation.

So called Celtic hand bells usually are rectangular: frontal walls (faces) are longer, while side walls are narrower, the silhouette of bells is similar to that of rectangular or trapezium with the handle at the top of the body. These bells were made of iron as well

as of bronze. There are quite many bells of this type that have remained up till nowadays: 75 have been found in Ireland, 19 in Scotland, 7⁷⁹ in Wales, and 6⁸⁰ in Brittany. A small number of Celtic bells have remained in England, a few more bells are known in Germany and Switzerland. The greatest of which is of 35.5cm height⁸¹ whereas the smallest is–just 6 cm⁸².

The usage of sheet iron, provided the instrument with original features. Manufacture of Celtic bells was almost the same as in ancient Roman times when animal bells83 were made of a single iron sheet, folding it in half and joining the folded edges with rivets. Usually these bells were covered with a thin brass layer. Although, previously mentioned iron bells were similar to roman bells in structure, their purpose was absolutely different. There are three types of them: the so-called bells of hours, used in monasteries to gather monks for a prayer (these are the largest bells of this type), insignia bells and pectoral bells. The latter were the smallest ones. The biography of St. Maedoc, one of the Irish saints, mentions a small bell, called bell of the brooch (the Old Irish language - clocc an deilcc), which was hung on a chest under or over the - mantle⁸⁴ and probably served as a protective amulet. Latter bells, not many of which have remained till nowadays⁸⁵, could hardly be larger than 10cm. Insignia bells are much more known and they were kept "in my hand at home and abroad"86. These bells were probably used in religious ceremonies either; therefore, they were also called prayer bells. As it can be seen from the allusions, during the ceremonies latter bells were held on the knees, otherwise they could be hung around the neck towards the chest⁸⁷.

Although, iron Celtic bells are not very diverse in their forms⁸⁸, the bronze bells are much more different. It is generally claimed in the literature that bronze bells are more **recent** than iron bells based on the interpretation progressive technological development. Indeed, most of the bronze bells basically repeat the shape of iron bells and could have been made in 8-11th century. However, recent archaeological excavations have revealed that bronze technology used for iron bells in 6-7th in Ireland, was not less complicated process than casting bronze

bells of similar size89. In this context it is worth to remember that from the ancient times Celtic tribes managed to cast a variety of rather complex works. Thus, the prevalence of much cheaper iron bells was probably due to economic reasons but not of technological backwardness. Some of the bronze bells that can be found nowadays may be even older than it was previously assumed. These are those bells, the frontal walls (faces) of which are not so emphasized in comparison with the sides and the bell shape is more similar to the square. So called bell of St. Mura (Muranus) from Ireland Abbey of Fahan (now protected in London, The Wallace Collection) has the same forms; according to the legend, it was founded in the seventh century by St Mura himself. The same type also includes some bells from Brittany: cloche de Saint-Mériadec from Pontivy and cloche de Saint-Pol from Saint-Pol-de-Léon cathedral. It should be noted that latter bells [Fig. 11] are similar both in

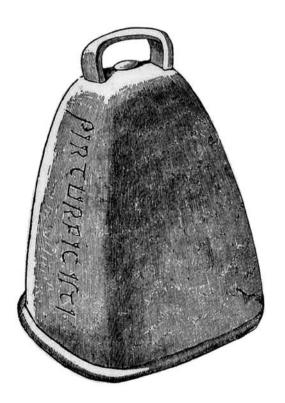


Fig. 11. "Cloche de Saint-Mériadec". France, Britanny, Pontivy,_chapel of Stival. 9th - 12th century. Chased copper. H – 25 cm.

Source: Walters, H. B. Church bells of England. London, New York, Toronto, and Melbourne: Henry Frowde; Oxford University Press, 1912. their form and size to the previously mentioned bronze Herculaneum bell [Fig. 10] which was hypothetically assigned to *aes* instrument group. Both bell group types are also combined with a belief in magical powers of the instrument sound. There is some possibility that even in the 5th century, together with Christianity to Ireland came not only the custom of hand bell usage, but also the early type of bells, which only later took on specific "Celtic" forms.

In the ancient Irish language the bell was called *cloc*, in Latin clocca and perhaps the same origin was of the Lithuanian word klankis (animal bell) and the verbs klaksenti, klaksėti which describe the certain sounds and the voice of such a device as well. From the 6th century Irish missionaries (St. Gallus, St. Columbanus and others) spread in Western Europe and distributed the latter type of bells in the lands of current Germany, France and Switzerland at the same time transmitting a Celtic name of this bell for Germanic peoples and French. At least some of these bells were made in the British Isles and then transported to the continent of Europe. It is evidenced by the word clocca in the written sources. In 744 St. Boniface, the future archbishop of Mainz wrote a letter to Huitbert, the abbot of Wearmouth (England) in which he asked to send him cloccam (bell)90. In 764, Cuthbert, another abbot of the same monastery, sent to Lulu, another archbishop of Mainz, clocam, qualem ad manum habui91 (the bell that I had in hand⁹²). The latter phrase clearly illustrates that at first only hand bells were named by the word clocca and only later the suspended Church bells were called by the same name. Probably the initial sense of the word also appears in 789 the capitulary (a set of legislative acts) of Charlemagne, act No.18 which states: *Ut clocas non baptizent*⁹³. Usually this phrase is translated as "not baptize the bells", however at the beginning of the 20th century it was observed in the act that the word clocas means not the bells of the church but hand bells94. This act confirmed that at the end of the 8th century Celtic bells were widespread not only in the British Isles but also in the Empire of Charlemagne and at that time they were being pushed out of use. Celtic bells cannot be considered to the prototypes of modern bells. It is one variant of bell family instruments that existed

and developed in parallel with bells and disappeared together with the environment to which it was designed for.

The origin of bells

The majority of the early texts that refer to the instruments which can be considered to be bells, were written in the 6th to the 8th century. First of all they were the papers of St. Gregory of Tours and St. Bede. It should be noticed that the events, in the context of which bells are mentioned, usually take place in the environment of monasteries or cathedrals⁹⁵, i.e. in the places where people lived in the rhythm of the liturgical hours. It was the environment where first bells had to appear. The oldest testimony of bells is generally considered to be the letter of Carthage (now Tunisia) deacon Fulgentius Ferrandus, written in the first third of the 6th century. It was dedicated to Eugippius, the abbot of Lucullan monastery near Naples. It is written in the letter: Non ipse hoc solus operaris, sed alios plurimos ad consortium boni operi vocas, cui ministerio sonoram servire campanam ... statuit consuetudo... monachorum96 (you are not alone in doing this works, but you invites many others to do a good works and takes a sonant bell to serve ... [which is] a custom of ... monks). Two things are evident in the text, - the one is that bells were used to call the monks and the second - that it has been happening for many years ("is a custom"). Besides, in this text the bell is name campana97 for the first time. In the Medieval Latin language, according to the purpose and form, various types of instruments of bell family are quite strictly distinguished and described by different words98. Latin word campana is commonly referred to suspended bells, the definition of which was given at the beginning of this paper. Later, this word was also used in a number of the Southern European languages. However, it cannot be claimed campana, mentioned in the letter, corresponds to a modern concept of a bell. Ancient poet Horace who lived in the 1st century BC, when describing a household vessel in one of his satires, mentions Campana supellex99 (vessels of Campania). In late antiquity bronze vessels100, probably a certain kind of them, could be described by the saying vasa campana (in Latin vas means a



Fig. 12. Crater. Campania, Paestum, later 4th century BC. Pottery: black glaze, H – 56.5 cm. London, British Museum.

Source: http://www.beazley.ox.ac.uk/tools/pottery/painters/keypieces/paestan/asteas.htm.

vessel, a pot, a chalice). Remembering the appearance of bells in the Far East it can be assumed that vessels, especially those that were made of bronze and were sonorous, could be a prototype of European bells. Since ancient times they were used to create sounds as well as the above mentioned bowls (pelvis). Indeed, some of the earliest bells that are known to us, have a similar shape of the so-called bell-shaped craters [Fig.12], especially their metal analogues. Craters (utensils for wine mixing with water) of this type are known from the 6th century BC in the Greek cultural area, which also included Magna Graecia - the current southern part of Italy with a province of Campania. From the latter name the mentioned name of vessel¹⁰¹, used in the late antiquity, is derived. Crater-shaped vessels were usually large as their height could reach 30cm or more¹⁰²; they were made of ceramics, metal or glass. Later forms of these vessels, known from the findings¹⁰³ [Fig. 13] and frescoes of Pompeii [Fig. 14] are similar to the early church bells [Fig. 15, 16].

Craters were necessary vessels in early Christians' agapes as during them wine diluted with water was used. It is likely that these vessels could be used even

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Fig. 13. Crater from Hildesheim treasure. Roman Empire, 1^{st} century BC. Silver: casting, chasing, H-36 cm, D-35.3 cm. Staatliche Museen zu Berlin.

Source: Всеобщая история искусств. Том 1: Искусство Древнего мира / Под общей редакцией А. Д. Чегодаева. Москва: Государственное издательство "Искусство", 1956.



Fig. 14. Crater (campana?), detail of the wall painting. Pompeii, the grave of Vestorius Priscus, 79AD.



Fig. 15. Bell, Iggensbach village (near Deggendorf), Bavaria, 1144. Bonze: casting, H (without crown) – 41 cm, D – 36 cm.

Source: Otte, Heinrioh. Glockenkunde. Leipzig: T. 0. Weigel, 1884.



Fig. 16. Bell, Spain, 8th - 10th century AD. Bonze: casting. H (without loops) – ca. 30 cm. Bell was converted into the chandelier of mosque and used in Oran city (Algeria). Madrid, Museo Arqueológico Nacional. Reconstruction of the original appearance.

in some early forms of the *Eucharistic* liturgy. The testimony of that would be the remained tradition of Catholics and Orthodox to use a mixture of wine and water during the Mass. St. John Chrysostom texts and old Greek transcripts of the Liturgy of Saint James, mention the craters that were used in the liturgy¹⁰⁴. The practical usage of such vessels at a *Eucharistic* celebration is also proclaimed by two craters, that have remained till nowadays, and which were made in the 11th–12th centuries and belonged to Great Novgorod St. Sophia Orthodox Cathedral (Russia)¹⁰⁵ [Fig. 17]. That are the only known vessels of this kind which were used in the Christian liturgy (Orthodox) and likely made according to the Byzantium examples, which still existed in that time¹⁰⁶.

It can be assumed that during the formation of monastery life in the 4-5th centuries, bronze everyday craters (might be liturgical purpose) could be used as sound emitting instruments. The first bells could occur than the former loop handles on the craters sides were adopted for a hanging vessel.



Fig. 17. Liturgical crater. Goldsmith Kosta. Kievan Rus, Novgorod, later 11^{th} - early 12^{th} century. Silver: casting, chasing, carving, gilding, niello. H – 21.5 cm. Novgorod State United Museum - Reserve.

 $Source: http://russia-exhibition.ru/exposition/3d_visor/kratir/index.php?lang=ender.org$

Later special instruments of similar forms were started to be produced. It was probably the sixth century when, following the tintinnabula example, the bell-tongues were added into them.

This hypothesis can be based on some historical facts. Even in the 9th century bells were considered to be vessels: Walahfrid Strabo (he will be mentioned below) called bells "vasa" (vessels) 107 and Amalarius of Metz expressed it even more clearly - signorum quae fiebat per vasa aerea 108 (signs that are made of copper vessels). Such identification of bells and vessels can be an echo of not forgotten tradition. Another important fact, connecting bells with Eucharistic vessels is that bells have been consecrated109 (blessed, "baptized") from the ancient times (the oldest records reach the 7th century) and these ceremonies were more complex and solemn than consecration previously mentioned vessels. From historical sources it is known that in the early Middle Ages only priests¹¹⁰ could toll the bells and later deacons, ostiaries 111, the ones that were lower in the Holy Order, could also do that, while even nuns were forbidden to call bells themselves 112. It reminds how some time ago the Catholic Church treated Eucharistic vessels, which no layman could touch. Such an emphasized sacredness of bells, distinguishing them from other similar instruments that are used in churches, can reach the times of bell occurrence and indicate their initial purpose.

The early spread of bells

It was already the 6th century when signal instruments that can be identified with bells, were used in the territory of current France. The oldest reference can be regarded Monks' Regula, written in 513 by the Bishop of Arles St. Cesarius, he wrote: *quae, signo tacto, tardius ad opus Dei vel ad opera venerit...*¹¹³ (who, after the sign will be given, will sluggishly go into the service of God or to work ...). The phrase *Signo tacto* is literally translated as *sign has been tou-ched*. It is obvious that it does not refer to trumpets, but it is not clear which specific signal percussion instrument is mentioned. The origin of the early bells is usually based on the papers of famous historian and Bishop of Tour city (France) St. Gregory of

Tours¹¹⁴ (538-594). In several places of his texts he also mentions the sign (In Latin-signum), given by sound, which was a signal to come to the prayers. It should be noted that besides the word *sign* (*signum*), this author used such verbs as commoveô and moveo which in English can be translated by the same word to move, for instance, in History of Franks we find a phrase "...signum ad matutinas motum est115", which is translated as tolling for morning prayers, but literally - a sign is being moved to the morning prayers. However later, when bells, corresponding their current understanding, were undoubtebly spread, another Latin word pulsare was used to express the act of sounding - to beat, strike, sound, which also reflected the way of sounding the bell. Hence, we can wonder if in his works Gregory of Tours refers to the ordinary bells rather than to those previously described bells, which had to be sounded by moving their body. However, the latter authors, when describing the life of his namesake St. Gregory, the Bishop of Dijon, perhaps for the first time clearly mentions an instrument, which can be identified as a bell: observatores vero ostium baptisterii obseratum invenientes, clave sua solite aperiebant, commotoque signo... ad officium dominicum consurgebat¹¹⁶ (supervisors found the locked door of the baptistery, opened [them] with their usual key and wakened to the Lord's prayers by the swinging bell). It is clear from the text that the bell was stored in a locked baptistery and it was sounded for morning prayers. Obviously, it was not necessary to keep the hand bell in a separate locked room and that it was stored there not for the baptismal ceremony.

In the Catholic Encyclopedia, published at the beginning of the 20th century, we can find a carefully mentioned opinion of Marius Férotin OSB, the specialist of mozarabic **liturgy**, in the current territory of Spain of the 6th century stated that "large bells were commonly used". However, the authors of the encyclopaedia doubted" about the reliability of this reference. Although we are not competent in this matter, we can say only one note: "large bells" can be a direct link the usual bells to us, in such a way distinguishing them from the small bells, i.e. hand bells. According to the previously mentioned factual information, the use of bells on the Iberian

Peninsula in the 6th century is rather possible. A bell, as an independent instrument, has been already formed and it was reflected in the literature of that time, when different words *signum* [or *signa*] and *campana*¹¹⁹ were used to name them.

In the beginning of the 8th century bells were already used in Great Britain, in the lands of Anglo-Saxon, where they were mentioned for the first time by english monk and historian St. Bede (Beda Venerabilis, 672 - 735). At that time, bells were not usual and known instruments for everyone in those lands. It can be understood from the text, where an author, who had described sound of the bell (campanae sonum) in the nunnery, had to explain to the readers that it ad orationes excitari vel convocari solebant, cum quis eorum de seculo fuisset evocatus (used to awake for prayers, to invite [the nuns] to congregate, when any of them is called from this world ¹²⁰). St. Bede when writing about Benedict Biscop (628?-690), Benedictine abbot from Wearmouth (North England), the author noticed for several times that the latter used to travel to Rome, from where he brought books, paintings, vessels¹²¹. It is possible, that this abbot could have brought the first bells to the Britain¹²². As we mentioned above, a Celtic iron hand bell had been manufactured in the British Isles. Thus in this case from abroad imported bells it must have been a different type and casted from a broze cast bell. It is almost not known about the bells produced in Rome in those times and the sales. It is often claimed that bells spread only when Pope Stephen II (752-757) near Rome St. Peter's Basilica built a belfry and took there three bells¹²³. However it was not an ordinary wall belfry (an open arcade with the bells) of that time, but a high tower for a bell (a prototype of a campanile), one of the first buildings of this type. These belfry towers were built near the churches not earlier than the first half of the 8th century, as the response to the minarets, built near the mosques by the adherents of the rapidly spreading Islam religion. Thus, a bell was the reason, but not the only one, without which bell towers would not have been popular, but not vice versa. The Far East could be an indirect example, as special towers for bells are not and never were built there 124. The wall belfries, widespread in Italy and the Greek

islands, could have been older than the towers of belfries. In the arcade belfries, the bells or a group of bells were suspended in the open arcades. Probably the testimony of such a belfry remained in the annals of Saint-Wandrille Benedictine monastery in Normandy, at the beginning of the 8th century. It is written that the abbot Ermharius (who died in 738) made a bell and took it into a small tower (turricula) "as is the custom of such churches 125". A bishop and liturgical scholar Amalarius of Metz, who lived in the first half of the 9th century, also can testify the older spread of bells. In one of his letters he writes "in fact, [even] before Pope Stephen, the same sign [=bell] gathered all the believers into the church¹²⁶ during the holy hours", consequently, the use of bells must have been an earlier event.

Not the testimonies of contemporaries, but a historical tradition preserved several facts of the 7th century of different reliability. It is written that the Pope Sabinian (604-606) introduced the custom to toll the bells when marking the canonical hours and the beginning of Mass. After more than 600 years after the described events, Guillame Durand was the first who alluded it in Rationale Divinorum Officiorum¹²⁷. The one has to agree with the majority of authors who claim that such an expression of Pope's will (there is a doubt if he was Sabinian or some other Pope? 128) had a significant impact on the prevalence of bells¹²⁹. We assume that it could have been not an imperative order to generally use bells but rather a permission to use them not only in the monasteries or cathedral churches (where they have been already used) but also "in the world", i.e. in the ordinary parish churches. It would be confirmed by the already mentioned Amalarius of Metz, who having visited Rome in 831 was surprised when he saw that the believers are being invited to church by using acoustic boards rather than bells¹³⁰. Thus, the Pope probably did not restrict the use of other instruments. The second message also comes from the text of the 13th century. The collection of lives of saints Legenda Aurea conveys a story of St. Lupus, the bishop French city Sens that tooks place at the beginning of the 7th century. It is told that when the army of Chlotar, the king of Franks, surrounded the city, the bells of local cathedral began to toll. The

soldiers were frightened of the unusual sound and they receded. Later, Chlotar himself crave for having these bells and brought them to Paris¹³¹. We do no judge how much this naïve story corresponds to historical truth. We can only state the two characters of the story are historical figures and that the story tells about the spread of the already existed bells. Hence, the 7th century can be considered the century of bells' spread as they were widely used and spread not only behind the walls of monasteries but also to the north areas of the then Christian Europe.

The testimony of Walahfrid Strabo

One of the most important texts to get acquainted with the origin of bells is the text of Walahfrid Strabo, the Frankish monk who lived in the first half of the 9th century and who was a close historian and poet of the Carolingian manor court. The following text is a part of his work *De exordiis et incrementis quarundam in observationibus ecclesiasticis rerum*¹³². However, it is necessary to admit that its published translations into English or French do not properly convey the original content¹³³. The translation of the Latin text below is not literally fluent, but it reflects the original text more accurately.

About vessels that are simply called signs [=bells]

As for the vessels, both teemed or even made by hands, which usually are called signs, because their sound, made by few strokes mean the sign of the hour, and with which the assigned liturgy is being celebrated at the God's house. About them [bells], seemingly should be said, that their handling not so much passed with and old custom, because they [congregation] did not so often attend the meetings, as it is now. Some of them used to gather on the set hours only because of the piety, others used to respond to the advance public announcements and used to find out the next time [of the gathering] at the celebration. Among some [congregation groups] hours used to be announced using the [wooden] boards, among others [wind] horns. So, the vessels that we are talking about, for the first

time were used in Italy, where they were invented. From this, and from the [name] Campania, which is the province of Italy, such bigger vessels are called campanae, the smallest ones are called tintinnabula because of their sound, nolas name is given because of the town Nola in the same Campania, where the same vessels had been constructed for the first time. As, however, we lawfully have brass and silver trumpets (Num. 10) and prophet with the voice as a trumpet, tells us to announce the sermons Isa. 8134). These vessels are beseemed to be used to invite the congregation, so the sermons would seem in our church as pure silver, durable and sonorous as bronze. That is, neither heretics would dirty with rust, neither negligent laziness would weaken, or a man would awestruck.

Walahfrid distinguishes two types of instruments: the larger bells (in the text they are called campanae) and small bells (nolae and tintinnabula). The phrase saying that small bells "had been constructed for the first time" in Italy, province of Campania, Nola city, is not reliable as besides author states that according to the sound they are the same tintinnabula and the latter, as we already know, were widespread in antiquity. What concerns this questions we assume that we must agree with Elisabetta Neri who claims that the word nola is derived from the diminutive form of the word campanola¹³⁵ and that it was identified with the city Nola due to the similarity of sound. The fact that Walahfrid did not mention the Nola Bishop St. Paulinus (354-431) in his text, probably indicates that at that time there was no invented story, supported by facts, which attributed the authorship of bell's emergence to above mentioned saint. Carlo Ebanista wrote about it more broadly and revealed the invalidity136 of the extremely popular legend. The attention should be drawn to Walahfrid's testimony that in his times bells were not only cast but also handmade (vel etiam productilibus), that might mean hammered sheet iron bells. The latin word etiam (even, as yet) can indicate that last-mentioned articles were in the periphery of the usual norms in the first part of

the 9th century. Walahfrid lived in the Carolingian era when the conventional bells in Western Church were widely used and the field of Celtic hand bells' usage was significantly narrowed. Probably this process started in the second half of the 7th century. It is possible that the decision, forbidding baptizing hand-bells (cloccas), in the already mentioned capitulary of Charlemagne in 789, desacralized them and so significantly contributed to the latter process. The Emperor Charlemagne (Charles the Great, who ruled in 768-814) had a significant impact on the spread of bells as he was perhaps the first known ruler who at his own expense not only cast bells but also regulated the use of bells and their export to other countries¹³⁷. The oldest bells are remained from this particular period [Fig. 18].

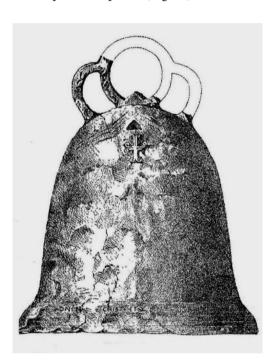


Fig. 18. Bell of Canino, Italy (near Viterbo), 9^{th} century. Bronze: casting, H – 36 cm, D – 29 cm. The oldest known bell in Europe. Vatican, Museo Pio Cristiano.

Source: Nowowiejski, Antoni Julian, Wykład liturgji Kościoła katolickiego. T. 1: Wiadomości wstępne. Warszawa: Druk. Franciszka Czerwińskiego, 1893.

The spread of bells in the East

At that time bells were not used in Byzantium. Although the first reference associated with this country reaches the second half of the 9th century. Cesare Baronio, in his monumental work *Annales*

Ecclesiastici wrote that_in 866 Venice Dodge Orso I Partecipazio sent bells to the Emperor of Byzantine - aerea instrumenta, quae campanas dicimus (bronze devices that are called bells¹³⁸) but John Burnett doubts whether these bells reached Constantinople¹³⁹. It is only known that bells of the 11-12th centuries were used in the Catholic churches of the latter city however Greek Orthodox still invited the faithful to the prayers by striking acoustic boards. It can be certified by Russian pilgrim Archibishop Anthony of Novgorod¹⁴⁰ who visited Constantinople at the beginning of the 13th century. During the times of the fierce confrontation and schism between the Eastern and Western Churches, bells belonged to these obvious differences, which were understood by Greek Orthodox as a part of Western Church's identity and thus they were not used but dismissed. Here it is worth to remember the above text of Walahfrid Strabo. It sets out the reasons why the use of bells reminds the attempts to justify the use of these instruments. It might be a reaction to the criticism that could also come from the Eastern Church. According to J. Burnett, in Constantinople the spread of bells began only after the Crusaders captured the city (in 1204) and found the Latin Empire, which existed almost sixty years. Poor spread of bells in Byzantium is noticed from the fact that there were only 62 bells and 300 semantrons in Constantinople before the Turks occupied it141. The sources of author's exact statistics are not known but the ration seems to be rather eloquent. When Turks conquered Constantinople, it was forbidden to toll bells and since then in Balkans and Asia Minor this instrument almost was not used for about 400 years.

At first glance it might seem strange that in Russia, which took Orthodox baptism from Byzantine, bells spread more quickly and more widely than in Byzantine. The first reference in Russian history, related to bells, is associated with Polotsk, which later was owned by Lithuania for about five hundred years. According to the first Novgorod Chronicle, in 1066, the Polotsk prince Vseslav, having occupied Novgorod the Great, took the then bells of St. Sophia Cathedral down and brought them to Polotsk¹⁴².

Obviously, bells were brought to Russia in not

through "the front doors", i.e. from Constantinople to Kiev, but through the "back doors" - most probably to Novgorod from Scandinavia, where bells were already known from the first half of the 9th century¹⁴³. The fact that bells came to Russia from Scandinavia is noticed by the borrowing, established in Russia, to call the bell κοποκοπ (kolokol), which due to characteristic pleophonic law in the Russian language probably originated from the Scandinavian prototypes klocka and klokke. Archeological excavations also confirm western origin of bells: during the period of the Mongol conquest (the middle of the 13th century) in the destroyed houses of worship, some bells were found which were the same as their widespread analogues in Western Europe. Probably they were brought from there or made by the masters who came from Western Europe¹⁴⁴.

CONCLUSIONS

- 1. In the first millennium BC and at the beginning of the first millennium AD, small bells (tintinnabulum) were known and widely used in the Mediterranean region. However, the modern bells cannot be directly derived from the latter ones. The hypothesis, that bells emerged gradually as the result of incremental evolution of small bells, is not confirmed by iconographic and written sources of late antiquity.
- 2. The tintinnabula strain *aes*, mentioned by ancient Roman writers, was probably a larger bell, to the sound of which magical powers were assigned. During the spread of Christianity, these kind instruments were introduced into the religious Christian life. We would assume that Celtic bells are the derivatives of the latter bells. Celtic bells cannot be considered to be the prototypes of modern bells as it is one of the bell family instruments which existed and developed in parallel with the early bells.
- 3. The first prototypes of modern bells in Europe could appear in about 4-5th centuries AD. They appeared without direct influence from the Far East where this instrument existed for a long time and was widely used. The emergence of European bells can be traced to the early environment of Christian monasteries. At first it was one of the instruments indicating the beginning of canonical hours and

assembling the monks for prayer. In antiquity popular household vessels-craters could serve as a prototype – they were used to mix water with wine. In the late antiquity, special bell-shaped metal craters were named according to the region, in which they were spread and produced for a long time - Campania. Vessels of this type might have been used in early Christian liturgy and during agape when drinking wine. Later, when emerged bell similar to the previously mentioned vessels, they also received the earlier name, which may testify the relationship between ancient crater and an early bell. Another indirect testimony, that at the earlier stage of their development bells could have been used as liturgical vessels, is the custom to baptize bells, which is known from the ancient times. Charlemagne's requirement that bells could be tolled only by the sacred persons remained the treatment of Eucharistic vessels

- 4. From the 6th century bells and their use were referred in the written sources. The word *campana*, describing not a crater shaped domestic vessel but a bell type instrument, was used for the first time at the first half of this century. St. Gregory of Tours (538-594) for the first time mentioned an instrument which could be identified with the modern bell. At the 6th century, in current Italy, North Africa, France and maybe Spain, bells were used in monastery life.
- 5. The beginning of bells' spread among Western Christians is dated in the 7th century. It could be signifficantly influenced by the Pope's decision, which admitted bells as suitable for indicating the beginning of the canonical hours and allowed them to be used in parish churches when assembling the faithful for a prayer. Unfortunately, the fact of the existance of the Pope's decision, has not been scientifically proven. During the times of Charlemagne, bells were already widely used throughout the entire empire where first legislation regulating the use of bells appeared. The oldest bells reached us from the particular times.
- 6. The spread of bells was one of the reasons due to which belfry towers were built in the middle of the 8th century. For many centuries these belfry towers formed a specific architectural expression of European cities.

7. Probably up to the 13th century Byzantine Christians did not use bells. Russia is an exception as bells were already known there from the middle of the 11th century. It might have been a result of close ties between Russia and Scandinavia, where bells were already used from the 9th century.

Notes

- ¹ Walahfrid, Strabo. *Libellus de exordiis et incrementis quarundam in observationibus ecclesiasticis rerum /* Translation and liturgical commentary by Alica L. Harting-Correa. *Leiden, New-York,* Köln: *E. J. Brill,* 1996, p. 62.
- Durandus, Gulielmo. Rationale divinorum officiorum. Lugduni: apud haeredes Iacobi Iunctae, 1568, p. 19; Neale, John Mason; Webb, Benjamin. The Symbolism of Churches and Church Ornaments: A Translation of the First Book of the Rationale Divinorum Officiorum, written of William Durandus. Leeds: T. W. Green, 1843, p. 87.
- ³ Durandus, op. cit., p. 20v.
- ⁴ Beleth, Joannes. *Rationale divinorum officiorum*. Dilingae: excudebat Sebaldus Mayer, 1572, p. 152, 152v.
- ⁵ Polydorus, Vergilius. *Adagiorum liber: Et de inventoribus rerum*. Basilea: ex aedibus Ioan. Frobenii, 1521, p. 72; Polydori, Virgilii. *De rerum Inventoribus*; translated into English by John Langley. New York: Agathynian Club, 1868, p. 190.
- ⁶ This fact is described in the Old Testament: Ex. 28, 33-35; Ex. 39, 25.
- ⁷ The Bells. In: Epiphany of our Lord. Catholic Church and School. Intenete: http://epiphanyofourlord.com/parish/history/the-bells/ (žiūrėta 2013 01 17).
- Magii, Hieronymi. *De Tintinnabulis*. Liber postumus. Hanoviae: Typis Wechelianis, apud Claudium Marnium, & heredes Ioannis Aubrii, 1608
- ⁹ Encyclopaedia Britannica: or, A Dictionary of Arts, Sciences, and Miscellaneous Literature. Vol. III. Edingurgh: printed for Archibald Constable and Company; London: Hurst, Robinson, and Company, 1823 (sixth edition), p. 542.
- The brief story of the bells. In: Merolla Campane. On the Internet: http://www.merollacampane.com/en/storia_campane/ [accessed on 14 04 2013].
- ¹¹ Roccha, Angelo. *De Campanis commentarius*: Romae: apud Guillelmum Facciottum, 1612, p. 5.
- ¹² Panvinio, Onuphrio. *Epitome pontificum romanorum a S. Petro usque ad Paulum IIII.* Venetiis: impensis Iacobi Stradae Mantuani,1557, p. 27.
- Sandini, Antonius. Vitae pontificum Romanorum ex antiquis monumentis collectae. Wirceburgi: Joannis Jacobi Christophori Kleyer Universitatis Typographi, 1740, p. 243.
- ¹⁴ Kircher, Athanasius. *Musurgia universalis sive ars magna consoni et dissoni*. Romæ: Ex Typographia Hæredum Francisci Corbelletti, 1650, p. 520.
- 15 Пыляевъ, Михаилъ И. Историческіе колокола. In: Историческій в $m{b}$ стникъ. Историко-литературный

- журналъ. Томъ XLII. С. Петербургъ: типографія А. С. Суворина, 1890, с. 169.
- ¹⁶ Blades, James. *Percussions instruments and their history*. Westport: The Bold Strummer, Ltd, 2005 (Fifth edition), p. 164.
- ¹⁷ Burnett, John. *Overview of the Origin and History of Russian Bell-Founding*. In: *Blagovest Russian Bells*. On the Internet: http://www.russianbells.com/history/history2. html [accessed on 15 04 2013].
- Westcott, Wendell. *Bells and Their Music*. New York:
 G. P. Putnam's Sons, 1970. Internet version 1998. On the
 Internet: https://www.msu.edu/~carillon/batmbook/chapter1.htm [accessed on 01 05 2013 05].
- Nowowiejski, Antoni Julian. Wykład liturgii Kościoła katolickiego. T. 1: Wiadomości wstępne. Cz. 4. Warszawa: Druk. Franciszka Czerwińskiego, 1893, s. 1248.
- ²⁰ Bell. In: Encyclopedia Britannica. On the Internet: http://www.britannica.com/EBchecked/topic/59546/bell [accessed on 07 01 2013];
- Rech, Adelheid. *Carillon History*. On the Internet: http://www.essentialvermeer.com/music/carillon/carillon_a. html [accessed on 11 04 2013].
- ²¹ Papillon, Thomas Leslie. *Bell.* In: *The Encyclopædia Britannica, a Dictionary of Arts, Sciences, Literature and General Information . Vol. III. New York: The Encyclopædia Britannica Company,* 1910.(eleventh edition), p . 687.
- ²² Krünitz, Johann Georg. Oekonomischen Encyklopädie oder allgemeines System der Staats- Stadt- Haus- und Landwirthschaft. Band 19. Berlin: Joachim Pauli, 1780, S. 90.
- When composing the definition of bell, it was mainly concentrated on Sachs-Hornbostel's probably the most often used musical instruments' classification system published in 1914. (cf. Hornbostel, Erich M., von; Sachs, Curt. Abhandlungen und Vorträge. Systematik der Musikinstrumente. In: Zeitschrift für Ethnologie. Organ der Berliner Gesellschafft für Anthropologie, Ethnologie und Uhrgeschichte. Bd. 46. Berlin: Behrend & Co, 1914, S. 559, 564-567), it has been also used the edition of 1911 of Encyclopædia Britannica and its definition of bell, which was categorically formulated but did not lose its value (Papillon, op. cit., p. 687), the electronic version of the same encyclopedia (cf. Bell. In: Encyclopedia Britannica. On the Internet: http://www.britannica.com/EBchecked/topic/59546/bell [accessed on 07 01 2013]). Other encyclopedic dictionaries and publications in the Lithuanian, English, Polish, Russian, German languages have been used. It is not possible to mention all of them.
- ²⁴ In German Aufschlaggefäss, in English percussion vessel.
- ²⁵ The Harvard Dictionary of Music / Edited by Don Michael Randel. Cambridge, MA: Belknap Press of Harvard University Press, 2003 (Fourth edition), p. 95.
- ²⁶ The instruments of glass, porcelain should be considered as rare exceptions.
- ²⁷ Kultūros vertybių pavadinimų klasifikatoriai [Classified Denominations of Cultural Values]. Vilnius: Centre of Cultural Heritage, 1995, p. 86. [the document of the institution has not been published in press]. Meanwhile in Russia small bells were regarded those weighing less than 10kg, cf. Introduction to Russian Bell Acoustics. On the Internet: http://www.russianbells.com/acoustics/acoustics-intro.html [accessed on 24 03 2013].

- ²⁸ Latin term originating from the word *crotalum* rattle, clappers.
- ²⁹ Rainio, Riitta. *Jingle bells, bells and bell pendants listening to the Iron Age Finland*. In: *Tautosakos darbai* [Works of Folklore]. T. XXXII / Edited by R. Žarskienė. Vilnius: Lietuvių literatūros ir tautosakos institutas, 2006, p. 117-124.
- ³⁰ Li Liu. *The Chinese Neolithic. Trajectories to early states.* Cambridge: Press Syndycate of the University of Cambridge, 2004, p. 37-41.
- ³¹ Falkenhausen, Lothar von. *Suspended music. Chimebells in the Culture of Bronze Age China*. Berkeley, Los Angeles: University of California Press, 1993, p. 132.
- 32 Ibidem.
- ³³ The Age-old Chinese Bell Culture. In: China through a Lens. China Internet Information Center. On the Internet: http://www.china.org.cn/english/features/FbiCh/78450. htm [accessed on 19 03 2013].
- ³⁴ In Lithuanian language, which is probably the most archaic of all live Indo-European languages, here is used a word *linguoti* (to swing, sway), and in the old songs a refrain *lingo* is met. Having no competence in this sphere, we will not try to find any correlations between mentioned Lithuanian words and Chinese name of the bell *ling*, we just would like to pay your attention to the phonetic and semantic similarity, which not always is accidental.
- ³⁵ Tombs for Nobles of the Yue State, Wuxi City, Jiangsu Province. In: China through a Lens. Top Ten Archaeological Discoveries of 2004.On the Internet: http://www.china.org.cn/english/features/Archaeology/149496.htm [accessed on 18 03 2013]
- ³⁶ L. Falkenhausen indicates that in Shaanxi Province, Keshengzhuang, a late Neolithic ceramic fragment, reminding a bell with a handle, was found. (Falkenhausen, op. cit., p. 136, footnote No. 18).
- Falkenhausen, op. cit., p. 132.
- ³⁸ Sacred Sounds. In: 5 Facts. Music and Art. Minneapolis Institute of Art. On the Internet: http://artsmia.org/education/teacher-resources/fivefacts_d.cfm?p=1&v=87 [accessed on 29 03 2013].
- ³⁹ Bell (*bo zhong*). In: *The Smithsonian's Museums of Asian Art*. On the Internet: http://www.asia.si.edu/collections/singleObject.cfm?ObjectNumber=S1987.10 [accessed on 29 03 2013].
- ⁴⁰ 元元整理 (Yuán Yuán Zhěnglǐ). 寺院的鐘 (Temple bell). In: *New Sancai Magazine* (in the Chinese language). On the Internet: http://www.newsancai.com/index.php/big5/traditional/276-harmony/3117.html [accessed on 28 03 2013].
- ⁴¹ Zhong. In: Encyclopædia Britannica. On the Internet: http://www.britannica.com/EBchecked/topic/116938/zhong?anchor=ref892122 [accessed on 19 04 2013].
- ⁴² A Brief History of Ancient Bells. In: China through a Lens. China Internet Information Center. On the Internet: http://www.china.org.cn/english/features/FbiCh/78687. htm [accessed on 19 04 2013].
- ⁴³ In everyday life small bells were used as door bells, for inviting the servants or wakening the slaves, etc.
- ⁴⁴ Small bells, worn around the neck, had to "guard" from the "evil eye", "Priapus bells", hung at the entrance of the house, had a similar function; small bells, tied around animals' necks, had probably not only a practical meaning, but also an apotropaic function.

- 45 Small bells were being tolled during the sacrifices, funerals.
- ⁴⁶ The diverse use of bells in antiquity was described in detail by A. Rich and T. D. Fosbroke. Cf. Rich, Anthony. *Dictionary of Roman and Greek Antiquities*. London: Longmans, Green, and Co,1890 (Fifth Edition revised and improved), p. 666-667; Fosbroke Thomas Dudley *Encyclopaedia of antiquities and Elements of Archaeology, Classical and Madiaeval*. Vol.I. London: Printed by and for John Nichols and Son, 1825, p. 229, 230.
- ⁴⁷ It can be assumed, that small bells were a kind of a substitute for money, especially in amber trade with Sambian Prussians. Cf. Nowakowski, Wojciech. *Tintinnabula auf den Ostseeinseln Die römischen Bronzeglocken auf den Inseln Gotland und Bornholm*. In: *Fornvännen*, nr. 89, 1994, S. 133-143.
- ⁴⁸ Latin word *aes* can be translated as copper, bronze, brass-Considering the fact that both bronze and brass are copper alloys and the latter metal is predominating, in English the word *aes* is translated as *copper*.
- ⁴⁹ Epigrammaton. Liber XIV, CLXIII, *Tintinabulum, žr.* Martialis, Valerius Marcus. *Epigrammaton libri*. Mit erklärenden Anmerkungen von Ludwig Friedlaender. Band II. Leipzig: Verlag von S. Hirzel, 1886, S. 332.
- ⁵⁰ English translations of this extract are different, in some places it is translated to "noisy gong", "resounding gong", in other places to "sounding brass".
- ⁵¹ St. Jerome should have been well aware of the differences between the instruments as he used the words *sono* (to sound) and *tinnio* (to jingle, clink), in that way the *aes* had a more melodic tone and cymbal a sharper tone.
- Wilson, Harry Langford. D. luni Iuvenalis Saturarum Libri V. Boston, New York, Chicago: D. C. Heath & Co, Publishers, 1908, p. 43.
- Smith, Kirby Flower. The Elegies of Albius Tibullus. New York, Cincinnati, Chicago: American Book Company, 1913, p. 126.
- Publius, Ovidius Naso; Frazer, James, George. Ovid's Fasti. With an English translation by Sir James George Frazer. London: William Heinemann LTD; Cambridge, Massachusetts: Harvard University Press: 1959, p. 292.
- ⁵⁵ Epigrammaton. Liber XII, LVII, 15-17, Martialis, op. cit, S. 248-250.
- ⁵⁶ Пухначев, Юрий В. Колокол. In: Наше наследие. 1991. №3. On the Internet: Академия Тринитаризма: http://www.trinitas.ru/rus/doc/0217/001a/02170002.htm [accessed on 01 04 2013]
- ⁵⁷ X. S. J. Liturgja. In: Encyklopedja kościelna podług Teologicznej Encyklopedji Wetzera i Weltego z licznemi jej dopełnieniami / Wydawca M. Nowodworski T. XII. Warszawa: Drukarnia Czerwińskiego i Spółki, 1879, s. 255–261.
- ⁵⁸ Ambrosian Rite is still used in the diocese of Milan in Italy; it is interesting to us as it is characterized by late, but original form of bells' tolling. Mozarabs' Rite are still preserved in some churches of Toledo and in the surroundings (Spain).
- ⁵⁹ Gallican Rite (also called as *Rite* of the *Gauls*) was widespread in France and North Italy, Celtic Rite in the British Isles.
- 60 Настольная книга священно служителя. Т. 4: Православный храм, богослужебная утварь и одеяния духовенства. Москва, Издание Московской Патриархии, 1983.

⁶¹ Herrera, Mathew D. *Sanctus Bells. History and Use in the Catholic Church*. San Luis Obispo, California: Tixlini Sciptorium, inc., 2004 (second edition), p. 7

Wheeler, Addison J. Gongs and Bells. In: Encyclopedia of Religion and Ethics / Ed. J. Hastings. Vol. 6. Edinburgh: T. &T. Clark; New York: Charles Scribner's Sons, 1913, p. 314. The Western Church took over this antique custom especially early and preserved it until the 20th century. In the famous Bayeux Tapestry dating back to the the end of the 11th c.; in the funeral ceremony of St. Edward, we notice two boys tolling the small bells. In France even existed brotherhoods, that united the ringers who tolled the hand bells during the funeral. Cf. Thurston, Herbert. Bells. In: The Catholic Encyclopedia. Vol. II. New York: Robert Appleton Company, 1907, p. 422. Even in the 19th century this custom was preserved in Sicily, Malta, the hand-held bell was being tolled in the front of the funeral procession of the members of Oxford University (England), cf. Walcott, Mackenzie E. C. Sacred Archæology: A Popular Dictionary of Ecclesiastical Art and Institutions, from Primitive to Modern Times. London: L. Reeve and Co., 1868, p. 69. Probably the usual church bells' tolling at funerals emerged from the latter custom. G. Durand wrote about the custom to toll bells at funerals of the 13th c., cf. Neale, op. cit., p. 96.

63 Later they were also called *praeco* – heralds, cf. *A Dictionary of Christian Antiquities: comprising the history, Institutions, and Antiquities of the Christian Church, from the time of the Apostles to the age of Charlemagne. Vol. 1 / Editors: W. Smith and S. Cheetham, London: John Murray, 1908, p. 521*

⁶⁴ Пухначев, op. cit. English researcher S. Coleman repeated the same but not indicated the source, cf., Coleman, Satis N. *Bells their History, Legends, Making and Uses.* Chicago, New York: Rand McNally and Co, 1928, p. 35.

Gregorius Episcopus Turonensis. Liber primus de virtutibus Sancti Martini. In: Gregorii Episcopi Turonensis opera hagiographica.On the Internet: http://profs.lettere.univr.it/labium/GDTAIPER/indice/opere/testi/vmi/VMI.htm [accessed on 21 04 2013].

66 Nowowiejski, op. cit., p. 1248.

⁶⁷ Tickle, Phyllis. A Brief History of Fixed-Hour Prayer. In: explorefaith.org, 1999-2011. On the Internet: http://www.explorefaith.org/prayer/prayer/fixed/a_brief_history.php [accessed on 22 04 2013].

Wheeler, Addison J. Gongs and Bells. In: Encyclopedia of Religion and Ethics / Ed. J. Hastings. Vol. 6. Edinburgh: T. &T. Clark; New York: Charles Scribner's Sons, 1913, p. 314.

⁶⁹ Such order existed at St. Pachomius monastery. It is proclaimed by the extract from this saint's corpuses: monk, cumque audierit vocem tubae ad collectam vocanti, statim egrediatur cellula sua [once he heard the trumpet's voice calling, he immediately went out from his small room]. Cf. Regulae Sancti Pachomii / S. Eusebii Hieronymi Stridonensis translatio latina. In: Ora, lege et labora. On the Internet: http://www.ora-et-labora.net/regulapachomii.html . [accessed on 23 04 2013].

⁷⁰ The use of the trumpet in monasteries, introduced by St. Pachomius, was admitted by St. John Climacus. In the first half of the 7th century he wrote about the spiritual sign of the trumpet (cum signum spiritualis tubæ), cf. Martenus, Edmundus. *De antiquis ecclesiæ ritibus*. Tomus III.

Mediolanus: in ædibus palatinis, 1737 (editio secunda), p. 15.

p. 15.

71 In the old publications there are some hints about the possible use of trumpets when gathering the faithful for a prayer in the British Isles, however their reliability is questionable, cf. Walcott, op. cit., p. 70; Stokes, Margaret. *Early Christian Architecture in Ireland*. London: George Bell and Sons, 1878, p. 79, footnote No.1

⁷² In Greek such an instrument is called "semantron" (σήμαντρον), xylon (ξύλον), in Russian "6μπο", made of not only wood, but also of metal bar. It is still widely used in the *Orthodox Monasteries*, particularly in Greece, the Balkans or Sinai. The appearance of this instrument is accompanied by the legend, that it was how Noah gathered the animals to his ark and thus saved them from the death during the global flood. Tolling of this instrument reminds the faithful that the Church, like Noah's ark, can be a shelter from the flood of sins. Cf. Ashanin, Natalie. *All About Bells*. On the Internet: http://www.theologic.com/oflweb/forkids/bells.htm [accessed on 13 03 2013].

⁷³ *Neri*, Elisabetta. *De campanis fundendis*. La produzione di campane nel Medioevo tra fonti scritte ed evidenze archeologiche. Milano: Vita e Pensiero, 2006, p. 8.

⁷⁴ Jocelinus, de Brakelonda. Chronica Jocelini De Brakelonda: de rebus gestis Samsonis abbatis monasterii Sancti Edmundi. Londini: Sumptibus Societatis Camdenensi, 1840. p. 78; translation into English: Jocelin of Brakelond: Chronicle of The Abbey of St. Edmund's (1173-1202). In: Fordham University, Medieval History, Selected Sources. On the Internet: http://www.fordham.edu/halsall/basis/jocelin.asp [accessed on 02 03 2013].

⁷⁵ Miniature bells are attached to the censers and liturgical fans (*Marvahtho*, corresponds to ripid used in the Byzantine Rite), cf. Herrera, op. cit., p. 7, 8.

Dowling, Maelruain Kristopher (Ed. and Trans.). Celtic Missal. The Liturgy and Diverse Services from the Lorrha ("Stowe") Missal used by Churches of Ireland, Scotland, Britain, France, Germany, Switzerland, and northern Italy. Akron (Ohio), 1997, p. 88. On the Internet: http://celticchristianity.org/library/stowe.pdf

Here are hints remained, that during the rites, the blessing could be done doing a cross sign with a bell in a hand, cf. *Plummer*, Charles. *Bethada Náem Nérenn = lives of Irish Saints*. Vol. II. Oxford: Clarendon press, 1922, p. 27.

Warrn, Frederick E. E. The Liturgy and Rituals of the Celtic Church. Oxford: The Clarendon Press, 1881, p. 92, 94.

⁷⁸ It would seem to have been customary for a bishop to receive a staff and a bell at his consecration, cf. *The Celtic Liturgy*. In: *The Celtic Era*. http://www.cushnieent.force9. co.uk/CelticEra/Nature/nature_liturgy.htm [accessed on 02 07 2013].

⁷⁹ Coleman, op. cit, p. 52.

⁸⁰ Bourke, Cormac. The hand-bells of the early Scottish Church. In: Proceeding of the Society of Antiquaries of Scotland. Vol. 113. Edinburgh: National Museums of Scotland, 1983, p. 465.

⁸¹ Lemercier, Claude. La cloche de Saint-Mériadec volée. In: Ouest-France. 17 mars 2009. On the Internet: http://www.ouest-france.fr/ofdernmin_-A-Pontivy-la-clochede-Saint-Meriadec-de-Stival-volee_-861562--BKN_actu. Htm

82 Allen, John Romilly. Celtic Art in Pagan and Christian Times. London: Methuen and Co. Ltd. 1912 (Second

edition, revised), p. 197. Most probably the biggest Celtic type bell is being stored in Bavaria, Ramsach, Kircherl St. Georg. Įvairiose publikacijose nurodoma, kad varpas yra apie 60 cm aukščio, tačiau greičiausiai šie duomenys nėra tikslūs ir varpas yra mažesnis, cf. *Geschmiedete Eisenblechglocke des Ramsachkircherls* "St. Georg" bei Murnau. In: Bistum Augsburg. On the Internet: http://www.bistumaugsburg.de/index.php/bistum/Gottesdienst-und-Liturgie/Amt-fuer-Kirchenmusik/Glocken/Historische-Glocken/St.-Georg-Ramsach [accessed on 08 06 2013].

- 83 Bourke, op. cit., p. 464.
- ⁸⁴ Bökemeier, Rolf. *Tierglocken aus Kalkriese*. On the Internet: http://www.fan-nds.de/roemer/zumnachlesen/tierglockenauskalkriese/ [accessed on 12 07 2013].
- 85 Plummer, op. cit., p. 238, 262.
- We will indicate just few cases: a 6cm height bell from Broch of Burrian (Orkney, Scotland) (cf. Bourke, op. cit., p. 464) and 8.3cm height from Kilmichael Glassary, Scotland can be considered as pectoral bell. This bell also has a decorative reliquary with a chain, that let to have it on neck (cf. Wilson, Daniel. *The Kilmichael-Glassrie Bellshrine*. In: *Proceedings of the Society of Antiquaries of Scotland*. Volume VIII. New Series. Edinburgh, 1885-1886, p. 79).
- ⁸⁷ Ibidem, p. 262.
- ⁸⁸ It can be an interpretation of lines of St. Maedoc's biography, describing the importance of the bell as a relic, left after the death of the saint. The following line emphasizes the bell's closeness to the saint, indicating the place where it was kept: "a prayer bell of his fair body, [put] on the knee, on the breast of the patron saint", cf. Plummer, op. cit., p. 238.
- ⁸⁹ The oldest iron bells were characterized by the shape, close to that of vertical cuboid (the bell of St. Gal in St. Gallen Cathedral in Switzerland, the bell of Bosbury, Herefordshire, England, which is now kept in London, Horniman Museum); the frontal wall (one or both) of the later bell become more and more inclined and the lower part is much more wider that the top.
- ⁹⁰ Young, Tim. Evaluation of archaeometallurgical residues from the N8 FermoyMitchelstown, Gortnahown 2, Co. Cork, (E2426). In: GeoArch Report. 2009/41, p. 8, 9; 2007: Early Medieval Handbell Reconstruction. In: GeoArch. On the Internet: http://www.geoarch.co.uk/experimental/bell.html
- ⁹¹ Monumenta Germaniae historica. Edidit aperiendis fontibus rerum Germanicarum medii aevi. Tomus III: *Epistolae Merowingici et Karolini aevi.* Tomus I. Berolini: apud Weidmannos, 1892, p. 348.
- ⁹² Ibidem, p. 406; Du Cange, et al. *Glossarium mediae et infimae latinitatis*. T. 2. Niort: L. Favre, 1883, p. 375.
- ⁹³ It becomes clear from the context that a bell served for the abbot as a govern attribute.
- Patrologiæ cursus completus. Series latina prior. Tomus XCVII: Carolini scriptores qui in Ecclesia latina floruere. B. Caroli Magni imperatoris Opera omnia. Tomus I: Continens B. Caroli Magni capitularia et privilegia. Parisiis: apud J. –P. Migne editorem, 1862, p. 188.
- ⁹⁵ A Dictionary, op. cit., p. 185, 186.
- In the Middle Ages not only the monasteries but also the Cathedral Chapters, the members of which, as well as monks, assembled to the common obligatory prayers at the indicated hours, also lived by the rhythm of canonical hours.

- ⁹⁷ Reifferscheid, August. *Anecdota Casinensia*; Vratislaviae: W. Friedrich, 1872, p. 2.
- ⁹⁸ The latest explanations of the term's origin can be found: Ebanista, Carlo. *Paolino di Nola e l'introduzione della campana in Occidente*. In: *Dal fuoco all'aria: tecniche, significati e prassi nell'uso delle campane dal Medioevo all'età moderna /* Ed. Fabio Redi, Giovanna Petrella. Ospedaletto (Pisa): Pacini, 2007, p. 328, 329.
- Neale, op. cit. p. 93; A Dictionary, op. cit., p. 184.
- Horatii, Flacci Q. Eclogae cum selectis scholiastarum veterum. Lipsiae: Sumtibus repetita emendatior, 1822, p. 358.
- Ebanista op. cit., p. 328.
- ¹⁰² In history there are a number of products called oikonyms. Usually it is due to the localization and distribution of the production centre. We will mention several of them: *gros de Tours, gros de Naples, pekin, astrakhan, muslin* ancient fabric names coinciding with the names of cities (Tour, Naples, Beijing, Astrakhan, Mosul); in metalworking *Damascus Steel*, having received its name from Damascus town.
- 103 The biggest crater, that remained till nowadays, might be made also in Campania, by antiquity greek craftsmen in about 550-500 BC. It was found in the grave of Celtic princess in Vix, Burgundy (France). The height of the vessel was 164 cm, diameter 124 cm, capacity 1100 liters, weight 208.6 kg. Nowadays, the crater is being stored at Musèe Archéologique, Châtillion sur-Seine. Cf. *Trésor de Vix Musée du Pays Châtillonnais. Nos collections. Âge du Fer.* On the Internet: http://www.musee-vix.fr/fr/index.php?page=38 [accessed on 08 04 2013]; Graham, A. J. *Collected Papers on Greek Colonization.* Leiden, Boston, Köln: Brill, 2001, p. 48.
- ¹⁰⁴ From the metal vessels, silver crater, found in the Hildesheimer's hoard, is the most famous. It dates back to the early 1th century AD and today it is kept in National Museums in Berlin (Staatliche Museen zu Berlin).
- 105 Покровскій, Николай Васильевич. Древняя Софійская ризница в Новгороде. Москва: типографія Г. Лисснера и Д. Собко, 1912, с. 48.
- 106 These both almost similar vessels are being stored in the Novgorod State United Museum-Reserve. Their height is 22 21.5 cm, diameter 19 21 cm. Cf.. Покровскій, ор. cit., p. 42-60; The glory of Byzantium. Art and Culture of the Middle Byzantine Era A. D. 843-1261 / Edited by H. C. Evans and W. D. Wixom. New York: The Metropoltan Museum of Art, 1997, p. 293-294; Holy Russia. 27 10 2011-05 02 2012 [exhibition web site]. On the Internet: http://www.svyatayarus.ru/data/metal_wood/25_kratir/index.php?lang=en
- Venice St. Mark's Basilica treasury stores one more Byzantiun crater type vessel. Which was made in the 9th 11th century, but it's body made of sardonyx, supposedly is older and might reach the antique times and it could be the cause of the current vessel shape.
- ¹⁰⁸ Walahfrid Strabo. *Libellus de exordiis et incrementis quarundam in observationibus ecclesiasticis rerum /* Translation and liturgical commentary by Alice L. Harting-Correa. *Leiden, New-York*, Köln: *E. J. Brill*, 1996, p. 62.
- Patrologiæ cursus completus. Series latina prior. Tomus CV: Theodulfi Aurelianensis episcopi, Sancti Eigilis abbatis Fuldensis, Dungali Reclusi, Ermoldi Nigelli, Symphosii Amalari presbyteri Metensis. Opera omnia. Tomus unicus. Parisiis: apud J. –P. Migne editorem, 1864, p. 1201.

110 The evidence of the antiquity of bells' "baptism" (consecration, blessing) ceremonies is testified by the already mentioned resolution in 789, prohibiting the baptism of "clocas" (hand-bells), cf. Patrologiæ 1862, op. cit., p. 188. Even older bell's sanctification ritual remained in the Pontifical Liber ordinum (cap. LVI), used in the Iberian peninsula and dating back to the 7th century, cf. Monumenta ecclesiae liturgica. Volumen V: Le Liber Ordinum en usage dans l'église Wisigothique et Mozarabe d'Espagne du cinquième siècle / ed. M. Férotin. Paris: Librairie de Firmin-Didot et Cie, 1904), p. 159-161; Heinz, Andreas. Die Bedeutung der Glocke im Licht des mittelalterlichen Ritus der Glockenweihe. In: Information, Kommunikation, und Selbstdarstellung in mittelalterlichen Gemeinden / Herausgegeben von A. Haverkamp. München: R. Oldenbourg Wissenschaftsverlag, 1998, S. 43, 44.

We will specify only few examples. The capitularies, which were announced in 801 in Aachen, include: ut omnes sacerdotes horis competentibus diei et noctis suarum sonent aecclesiarum signa (that all priests would toll the bells of their churches at required hours of days and nights), cf.. Patrologiæ, 1862, op. cit., p. 219; Northumbria (Northern England) Law of the Northumbrian Priests, that was written in about 1000 and there was required, "priest , at the appointed time ... ring the hours ... sing the hours". Comparison of canonical hours for chanting and tolling the bells indicates, that these two duties had to be done by priest, cf. Thorpe, Benjamin. Ancient Laws and Institutes of England, comprising the Laws enacted under the Anglo-Saxon Kings from Ethelbert to Canut. Volume II, London, Printed under the direction of the Commissioners of the public records of the kingdom, 1840, p. 98, 297.

Walters, Henry Beauchamp. Church bells of England. London, New York, Toronto and Melbourne: Oxford University Press, 1912, p. 85.

¹¹³ This is proved by the 9th century set of Irish aphorisms, called *Triads*, cf. Harrington, Christina. *Women in a Celtic Church. Ireland 450 – 1150*. Oxford: Oxford University Press, 2002, p. 117.

114 Cœsarius, Arelatensis archiepiscopus [Sanctus]. Régula sanctimonialium. In: Thierry, Augustin. Recits des temps Mérovingiens précédés de considérations sur l'histoire de France. Tome II. Paris: Furne et Ce, 1851 (Quatrième édition, revue et corrigée), p. 280.

115 Gonon, Thierry. Les cloches en France au moyen age: étude a rchéologique et approche historique. Thèse de Doctorat. Lyon: Universite Lumiere, 2002, p. 68, 69. On the Internet: theses.univ-lyon2.fr/documents/getpart. php?id=466&action=pdf.

¹¹⁶ Gregory Bishop of Tours. *History of the Franks /* Selections, translated with notes by Ernest Brehaut. New York: Columbia University Press, 1916, p. 62; Gonon, op. cit., p. 68, 69.

¹¹⁷ Florentius, Georgius [Gregorius episcopus Turonensis]. Incipit liber vitae patrum. VII. Incipit de Sancto Gregorio episcopo. In: Gregorii Episcopi Turonensis opera hagiographica. On the Internet: http://profs.lettere.univr.it/labium/GDTAIPER/indice/opere/testi/vp/VPVIIpm. htm [accessed on 12 04 2013].

Férotin, Marius. Le liber ordinum. In: Monumenta Ecclesiæ Liturgica. T. V. Paris: Firmin-Didot et Cie, 1904, p. 159.

¹¹⁹ Thurston, op. cit., p. 419.

¹²⁰ Neri, op. cit, p. 3.

¹²¹ Beda, Venerabilis [Sanctus]. Venerabilis Bedae opera quae supersunt omnia, nunc primum in Anglia, ope codicum manuscriptorum editionumque optimarum. Volumen IV: Opuscula historica / Edidit J. A. Gilles. Londini: Veneunt apud Whittaker et socios, 1843, p. 108, 109.

¹²² Ibidem, p. 374-377.

¹²³ Some authors indicate, that Benedict Biscop brought the first bells to Britain and reason this statement with the Bedae's letters, even there is nothing written about that cf. Westcott, op. cit. On the Internet: https://www.msu.edu/~carillon/batmbook/chapter2.htm [accessed on 01 04 2013].

124 Patrologiæ cursus completus. Series latina prior. Tomus CXXVIII: Anastasii abbatis, Sanctae Romanae Ecclesiae presbyteri et bibliothecarii, opera omnia. Tomus II. Parisiis: apud Garnier fratres, editores et J.-P. Migne Successores, 1880, p. 1107, 1114.

¹²⁵ Buildings, sometimes referred to as bell towers, that are found in the Far East, e.g. Beijing or Xi'an, are different from our usual concept of the tower. They are more similar to the raised platforms with the temples at the top of them, but not to ordinary belfries.

¹²⁶ Thurston, op. cit., p. 420.

¹²⁷ "Eodem enim signo ante Stephanum pontificem per omnes horas consacratas colligebantur fidelis ad ecclesiam", ibidem.

¹²⁸ Neale, op. cit, p. 91.

129 We assume that without the Pope's permission or order bells would not have used in parish churches. However, there are no enough evidences to link this decision with the Pope Sabinian. It is not mentioned in the significant work on papal history *Liber Pontificalis (Vitae Romanorum pontificum)* when listing the Pope Sabinian's works done, cf. Patrologiæ, 1880, op. cit. p. 664-672; Baronius also does not mention it in the annals of the Church, cf. Baronius, Caesar. Annales ecclesiastici. Tomus VIII. Romae: ex Typographia Vaticana, 1599, p. 195-198.

Kovačič, Mojca. The Bell and its Symbolic Role in Slovenia. In: Tautosakos darbai [Works of Folklore]. T XXXII
 / Edited by R. Žarskienė. Vilnius: Lietuvių literatūros ir tautosakos institutas, 2006, p. 106; Burnett, op. cit.

¹³¹ Patrologiæ 1864, op. cit. p. 1201.

¹³² Voragine, Jacobus de. *The Golden Legend. Readings on the Saints*. Vol. II. Princeton: Princeton University Press, 1993. P. 144, 145.

¹³³ Walahfrid, op. cit., p. 62.

¹³⁴ Ibidem, p. 63; Duseigne, Vincent [Tchorski]. La cloche de Saint-Pierre de Belleville. In: Tchorski. Patrimoine religieux. Lexique des cloches. On the Internet: http://tchorski. morkitu.org/1/belleville.htm [accessed on 12 05 2013]. For instance, A. L. Harting-Correa translated the phrase Apud quosdam tabulis, apud nonnullos cornibus horae prodebantur as In some communities the hours appeared on bone tablets, in others in tablets of horn. We assume, that more commentaries are not necessary.

¹³⁵ Indicated a wrong Old Testament book, actually it is Isa 58, 1.

¹³⁶ Neri, op. cit., p. 4.

¹³⁷ Ebanista, op. cit., p. 325-353.

¹³⁸ Thurston, op. cit., p. 420; Пухначев, op. cit.; A Dictionary, op. cit. p. 184.

Baronius, Caesar. Annales ecclesiastici. Tomus X. Coloniae Agrippinae: sumptibus Ioannis Gymnici & Antonij Hierati, 1609, p. 318. Other authors interpret this

fact differently; they state that there were 12 bells ,which is hard to believe, cf. Nowowiejski, op. cit, s. 1252.

- ¹⁴⁰ Burnett, op. cit.
- Lukianov, Roman. A Brief History of Russian Bells. In: Blagovest Bells. On the Internet: http://www.russianbells.com/history/history1.html [accessed on 20 02 2013]
- ¹⁴² Burnett, op. cit.
- ¹⁴³ Новгородская Первая летопись старшего и младшего изводов. / Под редакцией А. Н. Насонова. Москва, Ленинград: Издательство Академии наук СССР, 1950, с. 17.
- ¹⁴⁴ In Scandinavia bells were mentioned for the first time between 833-841, cf. Arnold, op. cit., p. 110, 111.
- 145 Pre-Mongolian Period bells, that were found in Russia, were registered and the scientific attributions were made by A. Bondarenko. The author assigned these bells to the same types, that were widespread in the then Western Europe. cf. Бондаренко, Анна Федоровна. История распространения колоколов и колокольного дела в средневековой Руси в XI-XVII веках. Диссертация. Московский государственный университет им. М. В. Ломоносова. Автореферат. 2007.

Gintautas ŽALĖNAS Vytauto Didžiojo universitetas, Kaunas

CUM SIGNO CAMPANAE. VARPŲ ATSIRADIMAS EUROPOJE IR ANKSTYVOJI JŲ SKLAIDA

Reikšminiai žodžiai: Varpas, varpelis, tintinnabulum, aes, signum, campana, nola, clocca, keltiškas rankinis varpas, krateris, Markas Valerijus Marcialis, šv. Grigalius Turietis, Walahfridas Strabo, Guillaumeʻas Durandas, Kampanija, Nola, popiežius Sabinijonas, popiežius Steponas II, Šv. Paulinas, Šv. Beda garbingasis, Karolis Didysis.

Santrauka

Straipsnyje nagrinėjama europietiško varpo atsiradimo ir ankstyvosios sklaidos istorija. Bandoma apibrėžti kokio pobūdžio instrumentas laikytinas europietišku varpu ir trumpai apibūdinami jam giminiški instrumentai. Aptariama šiuo metu išplitusi varpų inkrementinės raidos teorija, kuri teigia, kad varpai atsirado iš jau neolite randamų keramikinių barškučių ir nuolatinio tobulinimo keliu išsirutuliojo į šiandien visiems žinomą instrumentą vadinamą varpu. Autoriaus nuomone šiuolaikinių Europos varpų negalima tiesiogiai kildinti iš antikinių varpelių (tintinabulų) kurie buvo žinomi Viduržemio jūros regione jau pirmajame tūkstantmetyje prieš Kr. Tokio ryšio buvimo nepatvirtina mums žinomi vėlyvosios antikos laikų ikonografiniai bei rašytiniai šaltiniai, tačiau galima rasti panašumų tarp vėlyvosios antikos rašytojų minimo aes instrumento ir keltiško tipo rankinių varpų kurie buvo išplitę Britų salose nuo V iki XII a., o VIII- IX a. sutinkami kontinentinės Europos vakarinėje dalyje. Tačiau keltiškų varpų negalima laikyti šiuolaikinių varpų prototipais, tai vienas iš varpų šeimos instrumentų, kuris egzistavo ir vystėsi lygiagrečiai su ankstyvaisiais varpais.

Pirmieji šiuolaikinių varpų prototipai Europoje galėjo atsirasti maždaug IV–V a. po Kr. Jie atsirado be tiesioginės įtakos iš Tolimųjų Rytų, kur šis instrumentas jau seniai egzistavo ir buvo plačiai vartojamas. Europietiškų varpų atsiradimas gali būti siejamas su ankstyvųjų krikščionių vienuolynų aplinka. Pradžioje tai buvo vienas iš instrumentų kuriais žymima kanoninių valandų pradžia ir sukviečiami vienuoliai maldai. Prototipu galėjo pasitarnauti antikoje populiarūs buitiniai indai – krateriai, skirti maišyti vandenį su vynu. Specifinės, varpą primenančios formos metaliniai krateriai vėlyvojoje antikoje buvo vadinami pagal Italijos regioną kuriame jie buvo nuo seno paplitę ir gaminami – Kampaniją. Šio tipo indai buvo vartojami ankstyvųjų krikščionių susirinkimų, vadinamų agape, metu, geriant vyną, galėjo būti vartojami ir kai kuriuose ankstyvosiose liturgijos formose. Vėliau, jau atsiradus į minėtus indus panašiems varpams, jiems perėjo ir senasis lotyniškas indų pavadinimas, kas gali liudyti antikinio kraterio (indo) ir ankstyvojo varpo giminiškumą. VI a. varpai ir jų vartojimas pradedami minėti rašytiniuose šaltiniuose. Šio amžiaus pirmojoje pusėje pirmą kartą panaudotas žodis "campana", kuriuo apibūdintas jau ne buitinis indas,

bet varpo tipo instrumentas. Šv. Grigaliaus Turiečio (538-594) raštuose pirmą kartą paminėtas instrumentas kuris gali būti tapatinamas su šiuolaikiniu varpu. VI a varpai buvo vartojami vienuolynų gyvenime dabartinėje Italijoje, Šiaurės Afrikoje, Prancūzijoje ir gal būt Ispanijoje. Varpų išplitimo tarp Vakarų krikščionių pradžia laikytinas VII a. kai gal būt popiežius Sabinianas (?) pripažino juos tinkamais instrumentais žymėti kanoninių valandų pradžią ir leido juos vartoti parapijinėse bažnyčiose. Karolio Didžiojo laikais varpai buvo jau visuotinai vartojami visoje frankų imperijoje. Iš tų laikų mus pasiekė ir patys seniausi varpai.

Bizantijos apeigų krikščionys varpų nevartojo, greičiausiai iki pat XIII a. Išimtimi buvo Rusia, kur jau XI a. viduryje buvo sutinkami varpai. Tai galėjo sąlygoti glaudūs Naugardo ryšiai su Skandinavija ir Šiaurės Vokietija, kur varpai buvo paplitę jau nuo pirmo tūkstantmečio pabaigos.

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